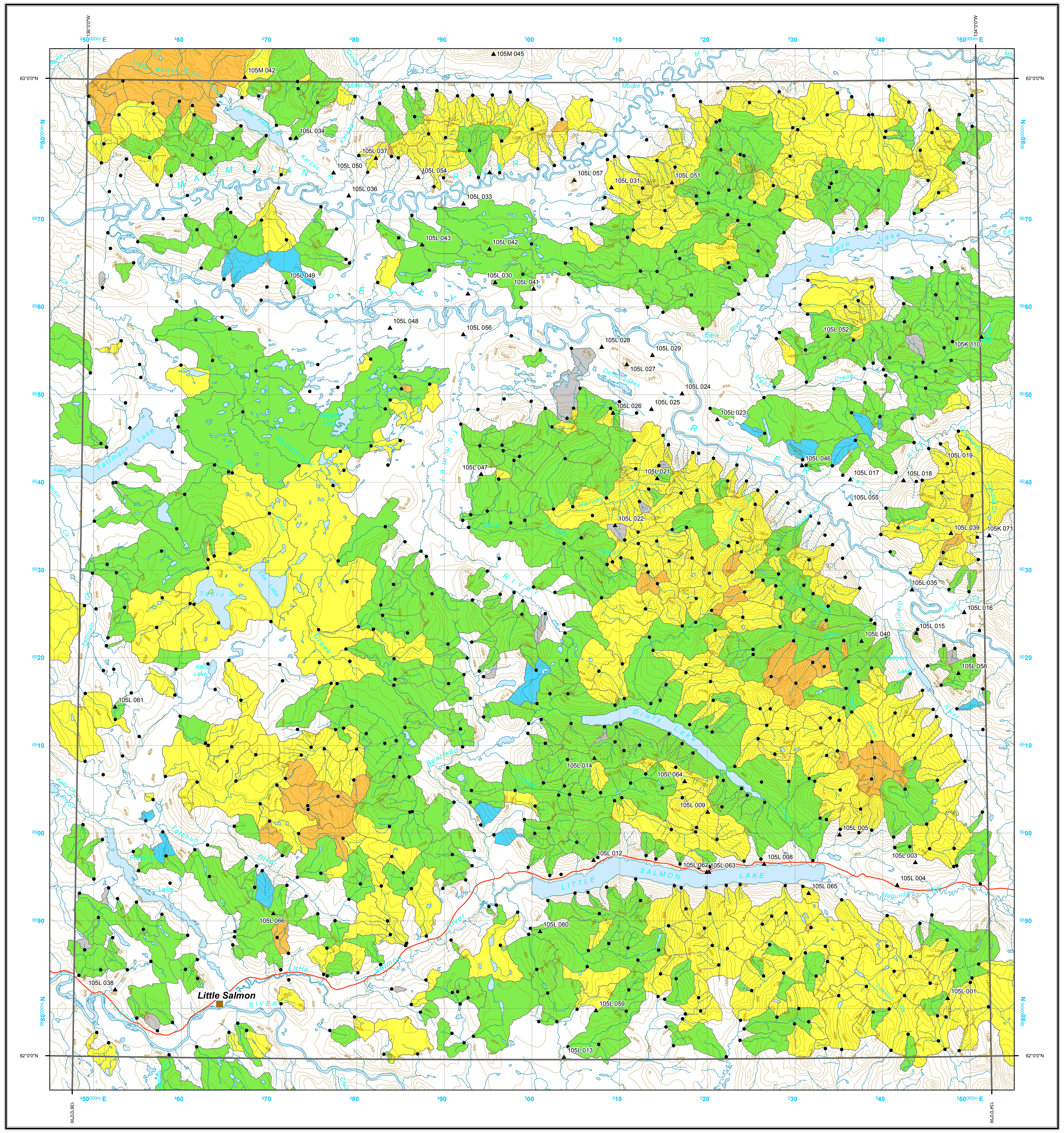


INTRODUCTION

New geochemical data from re-analysis of archived stream sediment samples have been assessed using weighted sums modelling (WSM) and catchment basin analysis as described in the methodology report that accompanies this map (Mackie *et al*., 2015). In addition to a series of maps displaying WSM results, a catchment map of stream water pH has also been constructed.

SAMPILNG AND ANALYSIS PROGRAMS

Stream sediment and water samples from the Glenlyon map area (NTS 105L) were collected at a reconnaissance scale in 1988 as part of the Canada-Yukon Mineral Development Agreement (Friske & Hornbrook, 1989). This survey also covered the western part of the adjacent map area to the east (105K). However, the current assessment deals only with samples located within NTS 105L (905 sites). Field descriptions and initial geochemical data were release in Geological Survey of Canada (GSC) Open File 1961. Re-analysis of archived sample material was completed in two stages and were released in Yukon Geological Survey (YGS) open files (Jackaman, 2015). The reader is referred to these open files for detailed descriptions of sampling techniques, analytical procedures and quality control measures.

While the database for this area contains 905 sample sites, only 795 samples are included in this assessment because catchment basins (provided by the YGS) were only generated for samples that could be reasonably assigned to a specific stream. This unusually high proportion of 'missing' catchments reflects both the inaccuracy of the location data from the historic sampling programs and the difficulty in defining catchment basins in areas of subdued topography.

MINERAL OCCURRENCES

As shown in Table 1 (Yukon Minfile, 2015), the most significant mineral occurrences documented within the Glenlyon map area are of the sedimentary exhalative Zn-Pb-Ag type (Clear Lake deposit; Hackey, Lobo and McArthur prospects). Other types of mineralization include polymetallic Ag-Pb-Zn vein (Front, Hub and Muir prospects), W skarn (Felix and Dromedary prospects), Pb-Zn Skarn (Carlson and Little Salmon prospects), volcanogenic massive sulphide Zn-Pb (Government and Highway showings) and Cu-Ag vein (Frenchman and Oobird showings). The past producing Faro and Vangorda Zn-Pb-Ag mines (Anvil SEDEX district) are located in the adjacent NTS map area to the east (105K). The Minto Cu-Au-Ag Mine and Williams Creek Cu-Au-Ag-Mo and Mt. Nansen Cu-Au-Mo deposits are located in the adjacent NTS map area to the west (115I). Notably, few occurrences are located within the defined catchment basins.

STREAM WATER pH

As shown in Figure 1 the vast majority of the streams sampled have near-neutral pH (median = 7.1). Comparison of the location of known occurrences and stream water pH shows no obvious relationship suggesting any response from oxidation of near-surface sulphide mineralization within the defined catchment basins has been diluted or neutralized. Many of the streams with mildly acidic water (pH < 6.0) correspond to areas mapped as felsic intrusions which is consistent with acidification of ground water by hydrolysis of silicate minerals (*e.g.,* feldspar) during weathering.

Figure 1: Stream water pH

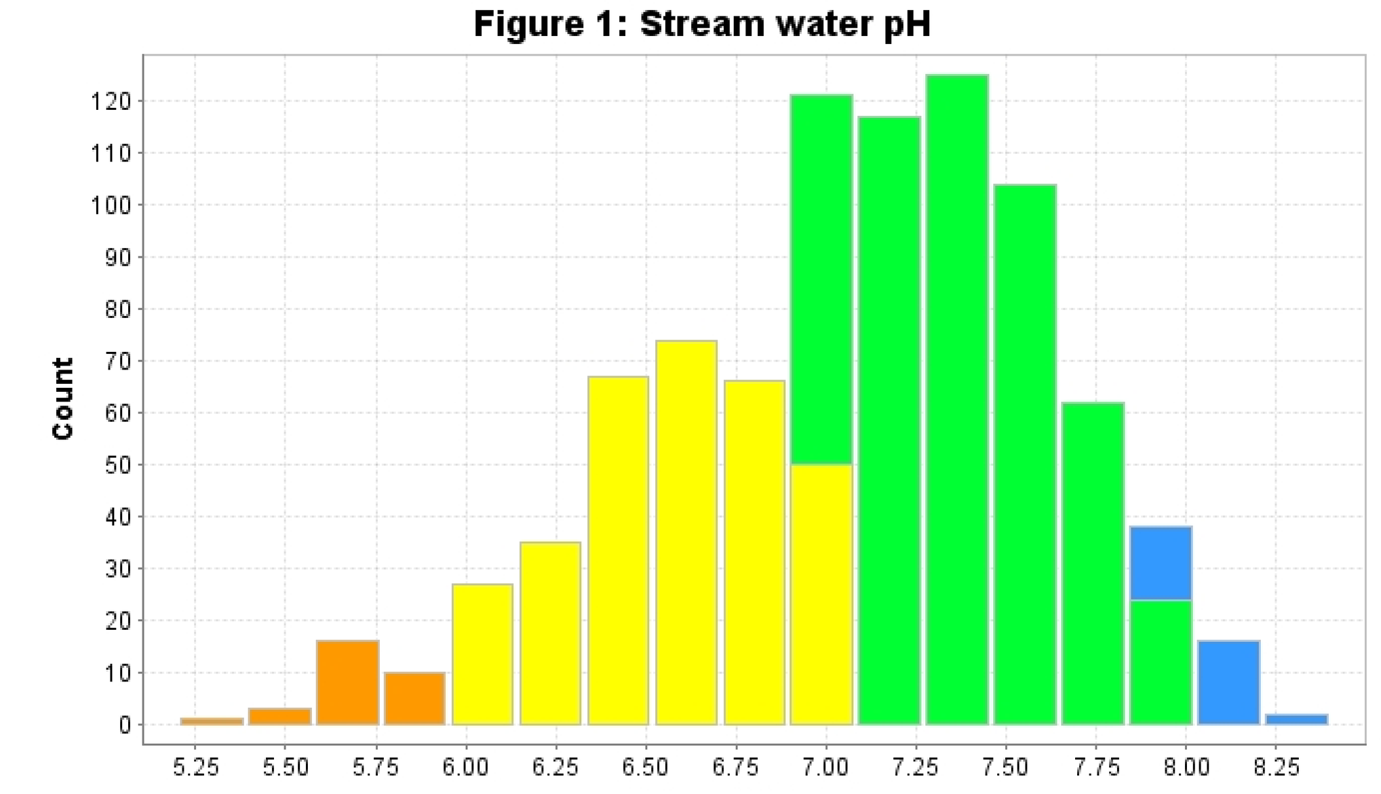


Table 1: List of Mineral Occurrences for NTS map sheet 105L (Yukon MINFILE, 2015)

NUMBER	NAME	DEP_TYPE	DEP_STATUS	COMMODITY
105L 001	LOKKEN	Skarn Pb-Zn	Prospect	Lead, Silver, Zinc
105L 003	LITTLE SALMON	Skarn Pb-Zn	Drilled Prospect	Arsenic, Gold, Lead, Silver, Tin, Zinc
105L 012	BRANDY	Unknown	Unknown	Copper
105L 013	JUMPONT	Coal	Showing	Coal
105L 015	GLENLYON LAKE	Unknown	Showing	Copper, Lead
105L 017	LOBO	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Drilled Prospect	Copper
105L 019	STONE	Unknown	Showing	Lead, Zinc, Silver
105L 022	TUMMEL	Skarn W	Showing	Tungsten
105L 023	MUIR	Vein Polymetallic Ag-Pb-Zn±Au	Drilled Prospect	Copper, Gold, Silver
105L 024	HUB	Vein Polymetallic Ag-Pb-Zn±Au	Drilled Prospect	Copper, Gold, Silver
105L 025	FRONT	Vein Polymetallic Ag-Pb-Zn±Au	Drilled Prospect	Copper, Gold, Silver, Zinc
105L 026	SEARFOSS	Vein Polymetallic Ag-Pb-Zn±Au	Prospect	Copper, Silver, Gold
105L 027	GE	Unknown	Showing	Copper, Silver
105L 028	MCCOWAN	Iron Formation	Drilled Prospect	Copper, Silver
105L 030	HACHEY	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Drilled Prospect	Copper, Lead, Zinc
105L 031	CARLSON	Skarn Pb-Zn	Drilled Prospect	Lead, Silver, Zinc
105L 032	HORSFALL	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Anomaly	Barite, Lead
105L 035	FISH HOOK	Coal	Unknown	Coal
105L 036	DUO	Coal	Unknown	Coal
105L 037	MCARTHUR	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Prospect	Gold, Lead, Silver, Zinc
105L 038	EUGENE	Coal	Unknown	Coal
105L 039	ALPHABET	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Drilled Prospect	Copper, Zinc, Lead
105L 040	FELIX	Skarn W	Drilled Prospect	Tungsten, Zinc
105L 045	CLEAR LAKE	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Deposit	Lead, Silver, Zinc, Titanium, Barite, Phosphorus
105L 046	SAP	Unknown	Anomaly	Zinc
105L 051	DROMEDARY	Skarn W	Drilled Prospect	Arsenic, Copper, Silver, Tungsten, Zinc, Lead, Barite
105L 054	KAL	Sediment hosted Stratiform Barite	Prospect	Barite, Silver, Zinc, Gold, Lead
105L 055	HODDER	Porphyry Mo (Low F-Type)	Showing	Molybdenum
105L 056	TUM	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Drilled Prospect	Zinc
105L 057	LONE MOUNTAIN.	Vein Polymetallic Ag-Pb-Zn±Au	Showing	Lead, Silver, Zinc
105L 058	LITTLE FISH HOOK	Vein Barite-Fluorite	Showing	Fluorite, Gold
105L 060	MARBLE	Unknown	Anomaly	Gold
105L 061	OOBIRD	Porphyry Alkalic Cu-Au	Showing	Copper, Silver
105L 062	GOVERNMENT	Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn	Showing	Copper, Zinc, Lead, Silver
105L 063	HIGHWAY	Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn	Showing	Copper, Gold, Lead
105L 064	JASPY	Vein Polymetallic Ag-Pb-Zn±Au	Showing	Copper, Silver, Zinc, Lead
105L 065	GLAD	Vein Cu±Ag Quartz	Showing	Copper, Gold, Silver
105L 052	ANACONDA	Sediment hosted Stratiform Barite	Prospect	Arsenic, Zinc, Silver, Lead, Copper, Barite
105L 005	TRUITT	Unknown	Drilled Prospect	
105L 047	RAGGED	Unknown	Unknown	
105L 016	JAR	Unknown	Anomaly	
105L 034	FLU	Unknown	Anomaly	
105L 033	NELS	Unknown	Unknown	
105L 043	CONWEST	Unknown	Drilled Prospect	
105L 021	HARVEY	Unknown	Showing	
105L 009	WHEELTON	Unknown	Anomaly	
105L 018	SPAR	Plutonic Related Au	Anomaly	
105L 066	FRENCHMAN	Vein Cu±Ag Quartz	Anomaly	
105L 049	HUGH	Unknown	Anomaly	
105L 048	GRAF	Unknown	Unknown	
105L 004	MOULE	Unknown	Anomaly	
105L 014	DRURY	Unknown	Unknown	
105L 008	ULRIKE	Unknown	Anomaly	
105L 042	TREDGER	Unknown	Drilled Prospect	
105L 050	HANK	Sediment hosted Stratiform Barite	Showing	
105L 041	KELLY	Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)	Drilled Prospect	
105L 029	EARN	Unknown	Anomaly	
105L 059	GOO	Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn	Anomaly	

LEGEND

- Town
- Mineral Occurrence
- Road
- Contour
- River
- NTS map sheet
- Water Body
- Wetland
- Sample Location
- Catchement

StreamWater_pH

- No pH data
- 0.01 - 5.00
- 5.01 - 6.00
- 6.01 - 7.00
- 7.01 - 8.00
- 8.01 - 9.00
- 9.01 - 10.00

RECOMMENDED CITATION

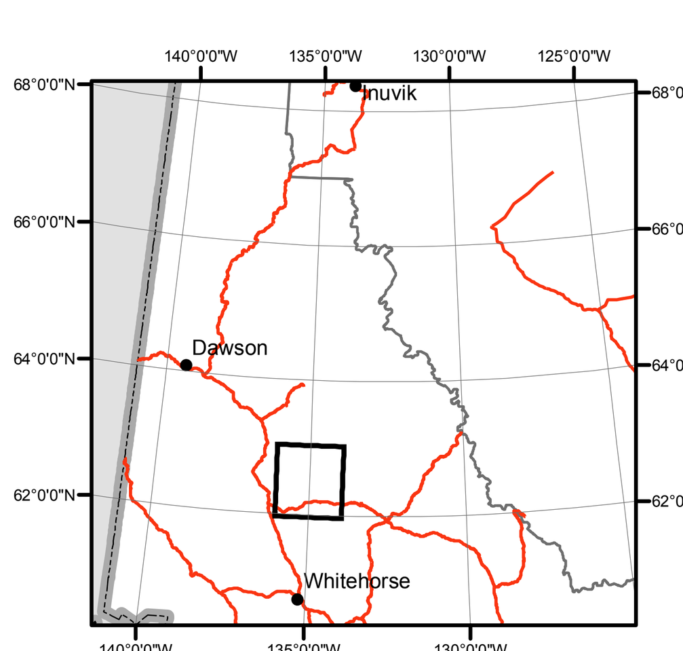
MACKIE, R., ARNE, D. AND PENNIMPEDE, C., 2016. Stream water pH. In: Enhanced interpretation of stream sediment geochemical data for NTS 105L. Yukon Geological Survey, Open File 2015-10, scale 1:250 000, sheet 15 of 15.

Catchment basin polygons generated by the Yukon Geological Survey (J. O. Bruce).

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map and the accompanying report may be obtained from the Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, Room 102-300 Main St., Whitehorse, Yukon, Y1A 2B5. Ph. 867-667-3201, Email geology@gov.yk.ca.

A digital PDF (Portable Document File) file of this map may be downloaded free of charge from the Yukon Geological Survey website: http://www.geology.gov.yk.ca.



1:250 000-scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

ONE THOUSAND METRE GRID
Universal Transverse Mercator Projection
North American Datum 1983
Zone 8

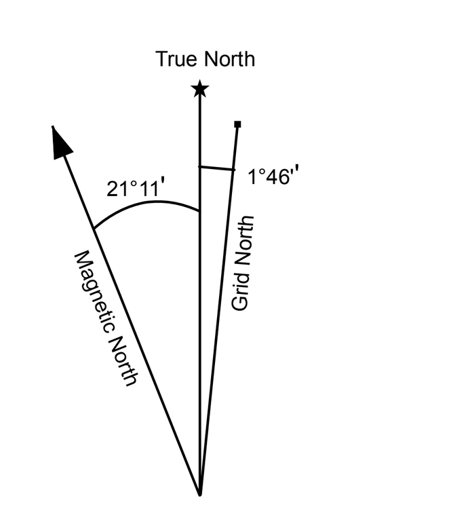
CONTOUR INTERVAL 100 FEET
Elevations in metres above Mean Sea Level

Stream Water pH
Sheet 15 of 15

SCALE 1:250 000

0 1 2 3 4 5

kilometres



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 2015
FOR CENTRE OF MAP

115P MCQUESTEN	105M MAYO	105N LANSING RANGE
115I CARMACKS	105L THIS MAP	105K TAY RIVER
115H AISHIHIK LAKE	105E LAKE LABERGE	105F QUIET LAKE

REFERENCES

Friske, P.W. and Hornbrook, E.H., 1989. National geochemical reconnaissance stream sediment and water geochemical data, central Yukon (105K/W and 105L), Geological Survey of Canada, Open File 1961.

Jackaman, W., 2015. Regional stream sediment geochemical data, Glenlyon area, central Yukon (NTS 105K west & 105L). Yukon Geological Survey, Open File 2015-9.

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Yukon MINFILE, 2015. Yukon MINFILE – A database of mineral occurrences. Yukon Geological Survey, www.data.geology.gov.yk.ca, accessed May 2015.

Yukon Geological Survey
Energy, Mines and Resources
Government of Yukon

Open File 2016-10

Stream Water pH (NTS 105L)
Sheet 15 of 15

by

Rob Mackie, Dennis Arne,
and Chris Pennimpede